

ABSTRACT OF THE DISCLOSURE

Methods and apparatus for forming a conformal conductive layer on a substrate for an electroplating process are provided. In one aspect, a method is provided for processing a substrate including depositing a conductive barrier layer on the substrate, and then depositing a nucleation layer on the conductive barrier layer. The nucleation layer is deposited by depositing a first conductive material on the substrate and then depositing a second conductive material on the first conductive material by an electroless deposition process. The second conductive material may comprise nickel, tin, or combinations thereof. The substrate may then be further processed by electroplating a third conductive material on the second conductive material and/or annealing the substrate.